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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference ITC-180WO		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/00704	International filing date (day/month/year) 12/01/2000	Priority date (day/month/year) 13/01/1999	
International Patent Classification (IPC) or national classification and IPC G01R1/06			
Applicant INTEST IP CORP.			


1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 9 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 7 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 14/08/2000	Date of completion of this report 10.04.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office - Gitschiner Str. 103 D-10958 Berlin Tel. +49 30 25901 - 0 Fax: +49 30 25901 - 840	Authorized officer Fritz, S Telephone No. +49 30 25901 635



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/US00/00704**

I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).)*

Description, pages:

1-28 as originally filed

Claims, No.:

1-7 as originally filed

8-53 as received on 15/02/2001 with letter of 15/02/2001

Drawings, sheets:

1/34-34/34 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/00704

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

5. ☒ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

see separate sheet

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 13-20,30-42,45-53.

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 13-20 are so unclear that no meaningful opinion could be formed (*specify*):
see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the said claims Nos. 30-42,45-53.

2. A meaningful international preliminary examination report cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/00704

1. Statement

Novelty (N)	Yes:	Claims	1-11,22-29
	No:	Claims	12,21,43,44
Inventive step (IS)	Yes:	Claims	1-11
	No:	Claims	22-29
Industrial applicability (IA)	Yes:	Claims	1-12,21-29,43,44
	No:	Claims	

2. Citations and explanations see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item I

Basis of the report

1) The amendments filed with the letter dated 15.02.2001 introduce subject-matter which extends beyond the content of the application as filed, contrary to **Article 34(2)(b) PCT**.

a) In **claim 12**, the applicant has replaced the feature "said column positionable so that it is closer to said load than said **second** vertical axis is to said load" by "said column positionable so that it is closer to said load than said **third** vertical axis is to said load". No support could be found in the application as filed for the amended feature because a column which is positionable relative to the third vertical axis is not disclosed in the application as filed.

b) In **claim 21**, the applicant has introduced the feature "**vertical motion of said cable is preventable** while said load is rotating about said horizontal axis". No support could be found in the application as filed for the added feature.

This report has been established as if these amendments had not been made.

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

2) The added **claims 45 to 53** do not comprise the essential features of the invention as searched. Specifically, they do not comprise the feature "said column is positionable so that it is closer to said load than said second vertical axis". Furthermore, they also do not comprise that the second vertical axis is "spaced apart from said first vertical axis". Since the International Search Report is restricted to the invention covered by claims 1-29, 43, and 44, no search report was established for claims 45 to 53.

Consequently, claims 45 to 53 have not been the subject of international preliminary examination.

3) **Claims 13 to 20** refer back to claim 11. However, these claims are unclear when referring back to claim 11:

Claims 13, 15 to 17, 19: According to claim 11 the system is already comprising the

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/00704

rotation unit as specified in claim 13. The expression "**further** comprising a rotational unit ..." in claim 13 is in contradiction to the expression "according to claim 11".

Claim 14: The expression "**said** third vertical axis" in combination with the expression "according to claim 11" is unclear because neither claim 11 nor claims 1 or 4 define a third axis.

Claim 18: The expression "according to claim 11, wherein said cables exit a test cabinet ..." is not concise because in claim 11 the reference "according to claim 4 or claim 9" should have been used instead.

Claim 20: According to claim 11 the cable support telescopes. Consequently, the expression "according to claim 11, wherein said cable support telescopes" is unclear. Since no other interpretation of the reference is given, claims 13 to 20 are so unclear, that no meaningful opinion can be formed.

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

4) Reference is made to the following document:

D1: WO -A- 96 26446

5) The document **D1** is regarded as being the **closest prior art** to the subject-matter of **claims 1 to 11**.

6) With respect to **claim 1**, **D1** discloses a system for positioning a load (see D1, the abstract and figures 1 to 3), said load coupled to a cable. The system of D1 is comprising:

- a column (reference sign 400 in Figure 2) which defines a first axis;
- an arm unit (500, 600) which supports said load and which moves along said first vertical axis; and
- a rotation unit (300) for rotating said first axis about a second vertical axis spaced apart from the first vertical axis.

Furthermore, the load of D1 is positionable by said arm unit so that said cable intersects said second vertical axis and said cable is situated to a side of said column, see Figure 1 of D1. However, the subject-matter of claim 1 differs from the system of D1 in that said column is positionable so that it is closer to said load than said second

vertical axis is to said load. The subject-matter of claim 1 is therefore novel (**Article 33(2) PCT**).

7) The problem to be solved by the present invention may therefore be regarded as providing a system for positioning heavier loads. This problem is solved by the system according to claim 1 because said column can be positioned so that it is closer to said load than said second vertical axis. The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (**Article 33(3) PCT**) because D1 is not giving any incentive in the direction of this solution. Furthermore, other available prior art does provide any such teaching.

8) **Claims 2 to 11** are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

9) The document **D1** is regarded as being the closest prior art to the subject-matter of **claims 12, 21, 43, 44**, and insofar as these claims can be understood (see Section VIII) and the amendments are taken into account (see Section I), this document discloses the features of claims 12, 21, 43, and 44 thereof, see D1, the abstract and figures 1 to 3. It appears, therefore, that the subject-matter of claims 12, 21, 43, and 44 is not novel (**Article 33(2) PCT**).

10) Insofar as dependent **claims 22 to 29** can be understood and are considered (see Sections I and VIII), it appears that their subject-matter does not meet the requirements of the PCT in respect of inventive step, because only slight constructional changes are defined in these claims which come within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen. Consequently, the subject-matter of claims 22 to 29 would lack an inventive step (**Article 33(3) PCT**).

Re Item VII

Certain defects in the international application

11) Independent **claims 1, 12, 21, 43, and 44** are not in the two-part form in accordance with **Rule 6.3(b) PCT**. In view of D1 the two-part form would be

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/00704

appropriate.

12) The features of the claims are not provided with reference signs placed in parentheses (**Rule 6.2(b) PCT**).

13) The description, see page 8, first paragraph, is not in conformity with the claims as required by **Rule 5.1(a)(iii) PCT**.

14) An "**incorporation by reference**", see page 1, line 26 of the description would not be possible in the regional phase before the European Patent Office.

Re Item VIII

Certain observations on the international application

15) Although claims 1, 12, 21, 43, and 44 have been drafted as separate independent claims, the **claims 1 to 12, 21 to 29, 43 and 44** appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and/or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness. Moreover, lack of clarity of the claims as a whole arises, since the plurality of independent claims makes it difficult to determine the matter for which protection is sought, and places an undue burden on others seeking to establish the extent of the protection. Hence, claims 1 to 12, 21 to 29, 43, and 44 do not meet the requirements of **Article 6 PCT**.

16) In **claim 12**, the expression "**said second vertical axis**" is used but a second vertical axis is not defined before in claim 12 (**Article 6 PCT**). It was assumed for the purposes of this Written Opinion that it was intended to define the second vertical axis as it is defined in claim 1.

17) The use of the plural "**cables**" in **claim 9** appears to be incorrect because only "a cable" was defined before (**Article 6 PCT**).

18) The vague and imprecise statement in the **description on page 28 at lines 16 to**

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/00704

19 implies that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity (**Article 6 PCT**) when used to interpret them (see also the **PCT Guidelines, III-4.3a**).

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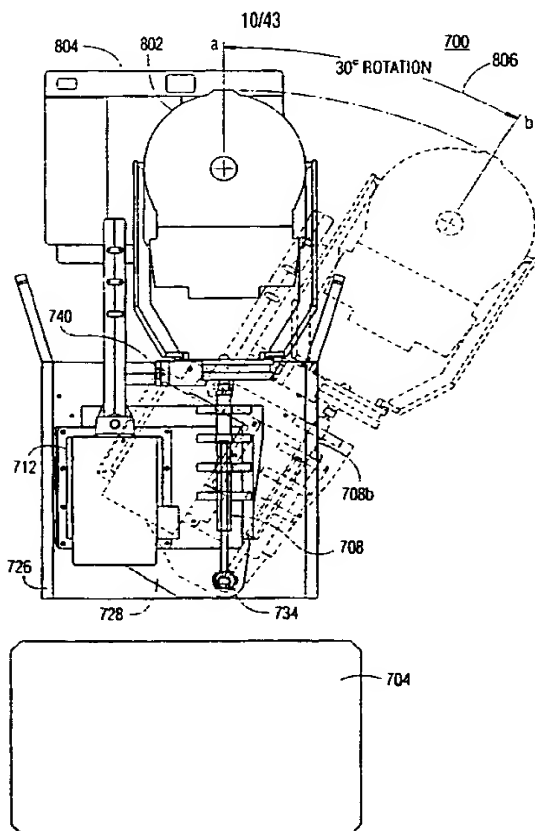
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[Continued on next page]

(54) Title: TEST HEAD MANIPULATOR



(57) Abstract: A system is useful for positioning a load, such as a test head (802). The system includes an arm which supports the load and which moves along a first vertical axis. The system also includes a rotation unit for rotating the first vertical axis (734) spaced apart from the first vertical axis.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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